

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-22383; Directorate Identifier 2005-NM-102-AD; Amendment 39-14520; AD 2006-06-11]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747-100B SUD, 747-200B, 747-300, 747-400, and 747-400D Series Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200B series airplanes having a stretched upper deck. This AD requires repetitively inspecting for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120 through 1220, and performing related investigative and corrective actions if necessary. This AD results from new reports of severed tension ties, as well as numerous reports of cracked tension ties, broken fasteners, and cracks in the frame, shear web, and shear ties adjacent to tension ties for the upper deck. We are issuing this AD to detect and correct cracking of the tension ties, shear webs, and frames of the upper deck, which could result in rapid decompression of the airplane.

DATES: This AD becomes effective April 26, 2006.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of April 26, 2006.

ADDRESSES: You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6437; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the airworthiness directive (AD) docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200B series airplanes having a stretched upper deck (SUD). That NPRM was published in the Federal Register on September 12, 2005 (70 FR 53743). That NPRM proposed to require repetitively inspecting for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120 through 1220, and related investigative and corrective actions if necessary.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Request To Discuss Special Freighters

The Boeing Company (hereafter referred to in this AD as "Boeing") requests that we revise the Discussion section of the proposed AD to refer to Boeing Model 747-200B(SUD)SF, 747-300SF, and 747-400SF airplanes. Boeing notes that the Discussion section mentions Boeing 747-200B series airplanes modified under a Boeing-owned supplemental type certificate (STC) to include a SUD, but doesn't mention STCs and service bulletins related to converting airplanes into a special freighter configuration. Boeing requests that we add a paragraph to the Discussion section stating that certain "Boeing Model 747-200B(SUD), 747-300, and 747-400 series airplanes" have been modified to a special freighter configuration and are subject to the identified unsafe condition for the tension ties and frames at body stations (BS) 1120 through 1220 only. Boeing contends that tension ties and frames at BS 880 through 1100 on the airplanes configured as special freighters are more robust and are not subject to the unsafe condition. Boeing states that adding such a paragraph would clarify that special freighters are affected by the AD, but that tension ties and frames at BS 880 through 1100 are not subject to the AD.

We agree that a special freighter that is converted from a Boeing 747-200B series airplane having a SUD or from a Boeing 747-300 or -400 series airplane is subject to the unsafe condition addressed by this AD. These airplanes are already included in the applicability of this AD. However, we do not agree with Boeing's request to refer to tension ties and frames at BS 880 through 1100 on the airplanes converted to special freighters because we have not indicated that the tension ties and frames in this area are subject to the AD. The Discussion section of the proposed AD is not restated in the final rule, so we have made no change with regard to Boeing's request.

Request To Clarify Effect on Other ADs

Boeing also requests that we clarify paragraph (b) of the proposed AD to state that, for special freighters that are converted from a Boeing 747-200B series airplane having a SUD or from a Boeing 747-300 or -400 series airplane, the inspections in this AD will not terminate the inspections of structural significant item (SSI) F-19A of Boeing Document No. D6-35022, "Supplemental Structural Inspection Document (SSID)," Revision G, dated December 2000 (hereafter referred to in this AD as "the SSID") for BS 880 through 1100.

We agree that this AD does not terminate the inspections of SSI F-19A for BS 880 through 1100. As we stated previously, tension ties and frames in BS 880 through 1100 are not subject to this AD. For clarification, we have revised paragraph (b) of this AD to state that the provisions of that paragraph apply only to areas inspected in accordance with this AD.

Request To Clarify Compliance Times

Boeing also requests that we revise paragraph (f)(1) of the proposed AD to state that the provision in that paragraph applies only to airplanes identified in Boeing Alert Service Bulletin 747-53A2507. Boeing states that, without this clarification, operators may question whether paragraph (f)(1) applies to all airplanes versus all airplanes specified in Boeing Alert Service Bulletin 747-53A2507.

We do not agree with Boeing's request to clarify the compliance times. Paragraph (f) of this AD refers to paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-53A2507 as the source for compliance times, "except as provided by paragraphs (f)(1), (f)(2), and (f)(3) of this AD." The compliance times in that service bulletin are also summarized in the preamble of the NPRM. We explained in the preamble of the NPRM, under the heading "Clarification of Compliance Time for Stage 1 Inspections," that this AD applies to certain airplanes not subject to the inspection in Boeing Service Bulletin 747-53-2483. Paragraph (f)(1) is intended to clarify the applicable compliance time for the Stage 1 inspections for these airplanes. We find that no further clarification of the compliance times is needed.

Request To Correct Typographical Error

Boeing also requests that we revise paragraph (c) of the proposed AD to refer to Model 747-200B series airplanes instead of "Model 747-200 series airplanes." We agree. A typographical error resulted in the omission of the letter "B" from the model. We have revised paragraph (c) of this AD accordingly.

Clarification of Applicability

The proposed AD specified that the actions therein would be applicable to "Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200[B] series airplanes having a stretched upper deck; certificated in any category; as identified in Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005." The current effectivity listing in the service bulletin includes airplanes up to and including line number 1358. However, the service bulletin also specifies that airplanes after line number 1358 are affected. Therefore, for clarification, we have revised this AD to apply to all airplanes of the affected models.

Clarification of Alternative Method of Compliance (AMOC) Paragraph

We have revised this action to clarify the appropriate procedure for notifying the principal inspector before using any approved AMOC on any airplane to which the AMOC applies.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Interim Action

We consider this AD interim action. The manufacturer is currently developing a modification that will address the unsafe condition identified in this AD. Once this modification is developed, approved, and available, we may consider additional rulemaking.

Costs of Compliance

There are about 622 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for U.S. operators to comply with this AD.

ESTIMATED COSTS					
Action	Work hours	Average labor rate per hour	Cost per airplane	Number of U.S.-registered airplanes	Fleet cost
Stage 1 Inspection per inspection cycle. ¹	19	\$65	\$1,235, per inspection cycle	76	\$93,860, per inspection cycle. ¹
Stage 2 Inspection, per inspection cycle.	83	65	\$5,395, per inspection cycle	76	\$410,020, per inspection cycle.

¹ Completing the initial Stage 2 inspection ends the repetitive Stage 1 inspections.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866;

(2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

www.faa.gov/aircraft/safety/alerts/

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2006-06-11 Boeing: Amendment 39-14520. Docket No. FAA-2005-22383; Directorate Identifier 2005-NM-102-AD.

Effective Date

- (a) This AD becomes effective April 26, 2006.

Affected ADs

(b) For the areas inspected in accordance with this AD, accomplishing the requirements of paragraph (f) of this AD terminates the corresponding inspection requirements for the upper deck tension ties as required by paragraphs (c) and (d) of AD 2004-07-22, amendment 39-13566, as those paragraphs apply to inspections of structural significant item (SSI) F-19A, as identified in Boeing Document No. D6-35022, "Supplemental Structural Inspection Document," Revision G, dated December 2000. All other requirements of AD 2004-07-22 continue to apply.

Applicability

(c) This AD applies to all Boeing Model 747-100B SUD, 747-300, 747-400, and 747-400D series airplanes; and Model 747-200B series airplanes having a stretched upper deck; certificated in any category.

Unsafe Condition

(d) This AD results from new reports of severed tension ties, as well as numerous reports of cracked tension ties, broken fasteners, and cracks in the frame, shear web, and shear ties adjacent to tension ties for the upper deck. We are issuing this AD to detect and correct cracking of the tension ties, shear webs, and frames of the upper deck, which could result in rapid decompression of the airplane.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Repetitive Inspections and Corrective Actions

(f) Do repetitive detailed and high frequency eddy current inspections, as applicable, for cracking or discrepancies of the fasteners in the tension ties, shear webs, and frames at body stations 1120

through 1220, and related investigative and corrective actions as applicable, by doing all actions in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, except as provided by paragraphs (g) and (h) of this AD. Do the initial and repetitive Stage 1 and Stage 2 inspections at the applicable times specified in Paragraph 1.E., "Compliance," of the service bulletin, except as provided by paragraphs (f)(1), (f)(2), and (f)(3) of this AD. Any applicable investigative and corrective actions must be done before further flight. Doing the initial Stage 2 inspection ends the repetitive Stage 1 inspections.

(1) For any airplane not identified in and subject to inspections in accordance with Boeing Service Bulletin 747-53-2483: Do the initial Stage 1 inspection in accordance with Boeing Alert Service Bulletin 747-53A2507 before the accumulation of 8,000 total flight cycles, or within 1,500 flight cycles after the effective date of this AD, whichever is later.

(2) Where Paragraph 1.E., "Compliance," of the service bulletin specifies a compliance time relative to the original issue date of the service bulletin, this AD requires compliance before the specified compliance time after the effective date of this AD.

(3) For any airplane that reaches the applicable compliance time for the initial Stage 2 inspection (as specified in Table 1, Compliance Recommendations, under paragraph 1.E. of the service bulletin) before reaching the applicable compliance time for the initial Stage 1 inspection: Doing the initial Stage 2 inspection eliminates the need to do the Stage 1 inspection.

Exception to Corrective Action Instructions

(g) If any discrepancy; including but not limited to cracking, or broken, loose, or missing fasteners; is found during any inspection required by this AD, and Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, specifies to contact Boeing for appropriate action: Before further flight, repair the discrepancy using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

No Reporting Requirement

(h) Although Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, specifies reporting inspection findings to the manufacturer, this AD does not include that requirement.

Alternative Methods of Compliance (AMOCs)

(i)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with 14 CFR 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

Material Incorporated by Reference

(j) You must use Boeing Alert Service Bulletin 747-53A2507, dated April 21, 2005, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle,

Washington 98124-2207, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on March 9, 2006.

Kalene C. Yanamura,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
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